KATAYEV, G.A.; OTMAKHOVA, Z.I.

Spectral method for determining microimpurities in gallium arsenide with their preconcentration. Zhur. anal. khim. 18 no.3:339-341 Mr'63. (MIRA 17:5)

1. Tomskiy gosudarstvennyy universitet imeni Kuybysheva.

0.5 g of As was ground in an agate mortar, placed [illegible] and the contents were heated in an air bath (115° C)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

SUB CODE: IC,OP ENCL: 00

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

vices in ESI lacquer produces stable parameters. The high current amplification factor and low reverse current are due to low surface

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for adsorption on the germanium surface. This reduces the rate of dissolution in highly concentrated organic acids and increases the rate of dissolution when the

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Kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semi-

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

insoluble state. This method was used to treat a film of nitroglyptal enamel with gelatin precipitated by formalin. In addition to these treatments

SUBMITTED: UNCLASS ENCL: NO SUB CODE:

KATAYEV, G.A.; SHPAYER, I.S.

Extraction of zinc and Co(II) thiocyanate complexes with isoamyl alcohol. Izv.vys.ucheb.zav.; khim.i khim.tekh. 7 no.6:891-897 '64. (MIRA 18:5)

1. Tomskiy gosudarstvennyy universitet imeni Kuybysheva, kafedra analiticheskoy khimii.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

achieved by contact deposition of [illegible]
high-purity zinc. The antimony deposit was dissolved in H_2SO_4 + HNO_3 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

the method is 5×10^{-4} x 3σ, and the relative error of determination of ±10%. Orig. art. has: 2 figures.

CHASHCHINA, O.V.; KATAYEV, G.A.

Ion-exchange dynamics of some heavy metal ions on tl polystyrene cation exchanger KU-2. Koll. zhur. 26 no.6:730-733 N-D '64 (MIRA 18:1)

1. Khimicheskiy fakul'tet Tomskogo universiteta.

KATAYEV, G.A.; OTMAKHOVA, Z.I.

Chemical spectral method for determining impurities in pure arsenic. Zav. lab. 30 no.1:40 '64. (MIRA 17:9)

1. Tomskiy gosudarstvennyy universitet.

L 01281-66

ACCESSION NR: AT5020448 UR/0000/64/000/000/0039/0046

AUTHOR: Katayev, G. A.; Presnov, V. A. (Professor); Lyuze, L. L.; Batuyeva, Ye. N.

TITLE: The effect which various substances have on the electrical and physical properties of the surface of germanium

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk. 1962. Porverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 39-46

TOPIC TAGS: germanium semiconductor, surface property, crystal surface, molecular interaction, semiconductor research

ABSTRACT: An attempt is made to explain the physicochemical nature of phenomena which take place during interaction of the natural surface of germanium with a chemical medium. The following effects are taken into consideration: 1. Interaction with the germanium surface atoms, which causes a radical change in the surface due to the formation of a new surface compound (sulfide, nitride, etc.). 2. Interaction of adsorbed molecules with germanium surface atoms due to various forces

Card 1/3

L 01281-66

ACCESSION NR: AT5020448

0

(physical and chemical adsorption). This may cause changes in the parameters of the surface states as well as the appearance of new levels. These phenomena are completely reversible in the case of physical adsorption. 3. Interaction of adsorbed molecules with molecules of water, oxygen and hydrated oxide in the oxide layer and at the germanium-oxide interface by various mechanisms. It is found that the interaction of various substances with germanium causes a change in the surface charge. The negative charge of an etched surface is usually reduced by chemical treatment, and sometimes even changes sign. The effect of various substances on the germanium surface is a change in the parameters of the "fast" states. A change is noted in the recombination velocity, which at times may be considerable. There is a sharp reduction in recombination velocity as a result of quinone treatment. Various substances are specific in their effect on the "fast" states. This effect cannot be interpreted on the basis of electrostatic interactions alone. The adsorption process is reversible in many cases (nitrobenzene, chlorobenzene, etc.). Chemical treatments are discussed in which redox systems take part (e. g. quinone-hydroquinone). It was found that quinone is very effective in reducing recombination by eliminating the acceptor level. Water causes large leakage currents due to the H_3O^+ ion in the monomolecular water layer (the "relay-race" effect). The mechanism of the effect of various substances on the "fast" state is not clear on several points.

Card 2/3

L 01281-66
ACCESSION NR: AT5020448

Further theoretical and experimental studies are needed in this direction. Orig. art. has: 6 formulas.

ASSOCIATION: none

SUBMITTED: 06Oct64 ENCL: 00 SUB CODE: SS, NP

NO REF SOV: 012 OTHER: 006

Card 3/3

L 01285-66 EWT(1)/EWT(m)/EPF(c)/EWP(j)/EWP(t)/EWP(b)/EWA(h)/EWA(c) IJP(c)
JD/GS/AT/RM

ACCESSION NR: AT5020451 UR/0000/64/000/000/0065/0078

AUTHOR: Lyuze, L. L.; Batuyeva, Ye. N.; Katayev, G. A.; Presnov, V. A. (Professor)

TITLE: The effect which the adsorption of various substances has on the surface properties of germanium

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 65-78

TOPIC TAGS: crystal surface, surface property, adsorption, germanium, semiconductor research, electron recombination

ABSTRACT: The authors study the adsorption of chlorobenzene, nitrobenzene, o-hydroxyquinoline and phthalic anhydride with regard to its effect on the density and energy configuration of recombination levels in germanium. Treatment in chlorobenzene gives the highest increase in negative surface charge. The recombination curve for this type of treatment showed no maximum, which makes it difficult to make any conclusions as to the properties of the recombination centers. Treatment in

Card 1/4

L 01285-66

ACCESSION NR: AT5020451

nitrobenzene is of interest since the nitro group is often an active radical in lacquer coatings. This type of treatment reduces the negative surface charge which appears after etching. When the treated specimen is aged in air, the surface potential increases to the former value characteristic for the etched surface. Treatment in o-hydroxyquinoline causes a sharp increase in positive surface charge. It was impossible to make any conclusions about the structure of surface centers after this type of treatment. Treatment in phthalic anhydride also increases the positive surface potential. Thus in nearly all cases adsorption of the substances is accompanied by a reduction in negative surface charge, especially in the case of o-hydroxyquinoline. This is explained by the displacement of adsorbed oxygen from the oxide layer, and for the case with o-hydroxyquinoline, by direct participation of electrons in the nitrogen atom in the volume with the conduction band:

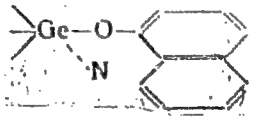
$$\gg N: + L \rightarrow \gg N^{+} + Le,$$

which causes positive surface charging. Adsorption causes a reduction in the maximum surface recombination velocity, which is due to a change in the capture cross section for the carriers. Adsorption of nitrobenzene and chlorobenzene is reversible. In the case of nitrobenzene adsorption, levels located above the center of the

Card 2/4

L 01285-66
ACCESSION NR: AT5020451

forbidden zone are shifted upward. The concentration of groups of levels located below the center of the forbidden zone increases during adsorption and returns to the original value during aging in air (as a result of desorption). It is assumed that the effects observed in adsorption of chlorobenzene, nitrobenzene and phthalic anhydride are due largely to electrostatic adsorption in the field of the defect responsible for recombination. Polarization and dispersion effects are apparently important in chlorobenzene adsorption, while the dipole moment is an important factor in adsorption of nitrobenzene. Adsorption of 8-hydroxyquinoline is accompanied by deeper interactions, including the formation of bonds of the type



A nitrogen atom which has an unshared pair takes part in this reaction. The experimental effects are due to this phenomenon. Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 06Oct64 ENCL: 00 SUB CODE: SS

Card 3/4

ACCESSION NR: AT5020451

NO REF SOV: 005 OTHER: 006

Card 4/4

L 01287-66 EWT(1)/T/EWA(h) IJP(c) AT/GS

ACCESSION NR: AT5020452 UR/0000/64/000/000/0079/0086

AUTHOR: Lyuze, L. L.; Batuyeva, Ye. N.; Katayev, G. A.; Presnov, V. A. (Professor)

TITLE: Investigation of the surface properties of germanium and germanium devices treated in quinone

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 79-86

TOPIC TAGS: germanium, semiconductor device, adsorption, surface property, crystal surface, quinone, semiconductor research

ABSTRACT: The quinone-hydroquinone redox pair is studied with regard to its effect on the structure of fast states, since a change in surface recombination velocity may be caused not only by a change in surface potential, but also by a change in the density, and in the energy terms of the "fast states." In making the measurements, use was made of the field effect with a strong sinusoidal signal combined with stationary photoconductivity. The frequency of the transverse field was 20-30 cps.

Card 1/3

L 01287-66

ACCESSION NR: AT5020452

Stationary photoconductivity was calibrated by the reduction in photoconductivity in the absence of a transverse field. The dielectric was a sheet of mica 20-30 μ thick. The specimens were made with *n*-germanium having resistivities of 32, 44 and 20 Ω·cm and lifetimes of 200, 150 and 300 μsec respectively. P-5 germanium devices were treated along with the germanium samples. The reverse current of the collector, the volume component of the reverse current, and the effective lifetime of the minority carriers were measured. Before treatment in quinone, the devices and germanium samples were etched in peroxide, washed several times in water, dried for three hours in a drying cabinet, and aged for two days in air in room conditions to stabilize the oxidized surface of the germanium. Quinone treatment and drying were done at room temperature. Concentration of alcohol solutions was 0.5 M, concentration of aqueous solutions was 0.05-0.1 M. The devices and germanium specimens were held in solution for 0.5 hour. The surface potential for the etched samples corresponds to minimum conductivity. After treatment in quinone, the charge of the etched surface becomes more positive. It was impossible to measure the maximum surface recombination as a function of the surface potential in the etched specimens, therefore it is difficult to determine the energy configuration of fast surface states. The recombination surface states in the etched samples are above the center of the forbidden zone. For the treated surface, the maximum surface recombination velocity is at a

Card 2/3

L 01287-66

ACCESSION NR: AT5020452

negative surface potential, and the basic contribution to recombination is from the group of levels below the center of the zone. It was found that quinone treatment strongly reduces the volume component of the reverse current. Freshly prepared quinone solutions (both alcohol and aqueous) were not as effective as solutions aged at room temperature or heated. This is due to the formation of hydroquinone and hydroxyquinone, which have acid properties. Thus a quinone-hydroquinone system acts on the germanium surface. It is apparently this redox pair which is chiefly responsible for the germanium surface charge. Adsorption of quinone is accompanied by a reduction in negative surface charge. This is explained by the desorption of oxygen, which is chiefly responsible for charge in the slow states. Orig. art. has: 2 figures, 1 table, 2 formulas.

ASSOCIATION: none

SUBMITTED: 06Oct64 ENCL: 00 SUB CODE: SS

NO REF SOV: 005 OTHER: 002

Card 3/3

VOZMILOVA, L.N.; KATAYEV, G.A.

Germanium ferrocyanide. Zhur.neorg.khim. 10 no.8:1953-1954 Ag '65. (MIRA 19:1)

1. Tomskiy gosudarstvennyy universitet imeni V.V.Kuybysheva, kafedra analiticheskoy khimii. Submitted January 7, 1965.

L 00223-67 EWT(j)/EWT(1)/EWT(m)/EWT(t)/ETI IJP(c) RM/JD

ACC NR: AR6019908 SOURCE CODE: UR/0275/66/000/002/B003/B003

AUTHOR: Lyuze, L. L.; Batuyeva, Ye. N.; Katayev, G. A.; Prosnov, V. A. 63

TITLE: Effect of adsorption of certain substances on the surface properties of germanium

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 2B22

REF SOURCE: Sb. Poverkhnostn. i kontaktn. yavleniya v poluprovodnikakh. Tomsk, Tomskiy un-t, 1964, 65-78

TOPIC TAGS: germanium, adsorption, chlorobenzene, nitrobenzene, phthalic anhydride, photoconductivity, chemical reaction

ABSTRACT: The effect of adsorption by chlorobenzene, nitrobenzene, o-hydroxyquinoline, and phthalic anhydride, on the density and energy state of recombination levels for Ge was investigated. Strips of Ge were kept in solution at 98°C for two hours, and then in a thermostatically controlled oven at 98°C for two hours, for the chlorobenzene and nitrobenzene processing. The quinone and the o-hydroxyquinoline were dissolved in alcohol prior to processing. During processing the specimens were kept in an alcohol solution for two hours at 78°C and dried in a thermostatically controlled oven at 78°C. Fusion was used in the phthalic anhydride processing. The field effect and recombination were measured by the drop in

Card 1/2 UDC: 539.293:546.289:541.183

L 09223-67

ACC NR: AR6019908

photoconductivity. In virtually all instances adsorption of the substances is accompanied by a reduction in the negative surface charge, and the reduction is particularly great for o-hydroxyquinoline. Change and recombination levels were tested. The adsorptions of nitrobenzene and chlorobenzene are reversible. The adsorptions of nitrobenzene and chlorobenzene are reversible. K. [Translation of abstract]

SUB CODE: 07

L 09224-67 EWP(j)/EWT(m)/EWP(t)/ETI IJP(c) RM/JD

ACC NR: AR6019907 SOURCE CODE: UR/0275/66/000/002/B003/B003

61

AUTHOR: Presnov, V. A.; Katayev, G. A.; Lyuze, L. L.

TITLE: Study of the effect of film forming substances on the electrical and physical properties of a germanium surface

27

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 2B21

REF SOURCE: Sb. Poverkhnostn. i kontaktn. yavleniya v poluprovodnikakh. Tomsk, Tomskiy un-t, 1964, 47-58

TOPIC TAGS: germanium, surface film, film forming substance, paint, electric field, photoconductivity, ELECTRIC PROPERTY

ABSTRACT: The work was conducted in an effort to ascertain the possibilities of stabilizing the surface of Ge using film forming substances. The effects of glyptal enamel, V-1 lacquer, drying oil, and rosin were considered. The effect of the field on a large sine signal and stationary photoconductivity were used for measurements. I. V. [Translation of abstract]

SUB CODE: 07, 20

Card 1/1 mle

UDC: 539.293:546.289

L 09227-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6019917 SOURCE CODE: UR/0275/66/000/002/B049/B049

31

AUTHOR: Katayev, G. A.; Otmakhov, I. I.; Presnov, V. A.

TITLE: Stabilization of parameters for germanium p-n junctions in a shell-less version

SOURCE: Ref. Zh. Elektronika i yeye primeneniye, Abs. 2B395

REF SOURCE: Sb. Poverkhnostn. i kontaktn. yavleniya v poluprovodnikakh, Tomsk, Tomskiy un-t, 1964, 170-176

TOPIC TAGS: pn junction, germanium semiconductor, semiconducting film

ABSTRACT: One of the methods for protecting germanium p-n junctions with film forming substances of organic origin, and subsequent additional processing, is reviewed. Processing is done by the diffusion of low molecular and albuminous substances, which results in a reduction in the number of structural defects in the film. Type p-5 germanium devices were used in the experiments. Devices protected in this manner withstood tropical moisture tests well. Has tables containing the results of tests of devices, the surfaces of which were processed in various ways. V. Ye. [Translation of abstract]

SUB CODE: 20, 09

Card 1/1 mle UDC: 621.382.002-76:546.289

KHAYEV G.I.

BELOV, K.P.; KATAYEV, G.I.

Volumetric magnetostriction of iron-nickel-chromium and iron-cobalt-chromium alloys. Vest.Mosk.un. Ser.mat.,mekh.,astron., fiz.,khim.11 no.1:73-78 '56. (MIRA 10:12)

1. Kafedra obshchey fiziki dlya biologo-pochvennogo i drugikh fakul'tetov Moskovskogo universiteta.
(Magnetostriction) (Iron-nickel-chromium alloys)
(Iron-cobalt-chromium alloys)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

AUTHOR: Katayev, G. I. SOV/32-24-10-35/70

TITLE: Apparatus for a More Accurate Determination of the Temperature Dependence on the Elasticity Modulus and the Decrement of Attenuation (Ustanovka dlya izmereniya temperaturnoy zavisimosti moduley uprugosti i dekrementa zatukhaniya s povyshennoy tochnost'yu)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1258-1261 (USSR)

ABSTRACT: The apparatus mentioned in the title was devised under the supervision of the kafedra akustiki fizicheskogo fakul'teta MGU (Chair of Acoustics of the Physical Faculty of Moscow State University) by V.P. Sizov. It makes possible the measurement of especially small variations in the functions mentioned in the title caused by various factors (temperature, thermal treatment, magnetic fields etc.). The increased precision of measurement is achieved by the use of an autooscillation excitation of the sample. It takes place at the same frequency with a quartz generator being used for calculating the frequency, besides the conversion devices (Ref 1). The present scheme differs from that given in publications in that it is more simple, and that a modification of the measuring interval may therefore take place.

Card 1/3

SOV/32-24-10-35/70

Apparatus for a More Accurate Determination of the Temperature Dependence on the Elasticity Modulus and the Decrement of Attenuation

From the description of the apparatus, it may be seen that a conversion device type ЛР ("Kalira") with a conversion coefficient of 1000 was used. The calculation of the Yung modulus of the cylindrical sample was carried out according to a formula given in another paper (Ref 2). To make the oscillations easier and to decrease the frequency, metal cylinders may be fastened to the end of the sample (Ref 4). The effect of these metal cylinders on the oscillation frequency can be calculated according to the manual by Anan'yev (Ref 5). A calculation of the measuring error of the absolute value of the Yung modulus shows that the main error is to be found in the inaccurate determination of the linear dimensions, especially of the diameter d of the sample. The functions obtained, E (elasticity modulus) and β (temperature coefficient of the modulus), versus the temperature within the range 19-150° for Elinvar (36% Ni, 12% Cr and 52% Fe) are given in a graph. The experimental points are located on the curve almost without any scattering. There are 3 figures and 5 references, 4 of which are Soviet.

Card 2/3

SOV/32-24-10-35/70

Apparatus for a More Accurate Determination of the Temperature Dependence on the Elasticity Modulus and the Decrement of Attenuation

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

Card 3/3

BELOV, K.P.; KATAYEV, G.I.; LEVITIN, R.Z.

Internal friction anomalies and modulus of elasticity in ferromagnetic materials near the Curie point. Zhur.eksp.i teor. fiz. 37 no.4:938-943 O '59. (MIRA 13:5)

1. Moskovskiy gosudarstvennyy universitet.
(Magnetism)

KATAYEV, G.I.

Ferromagnetic anomaly of the Young's and Shear Modulus. Fiz. met. i metalloved 11 no.3:375-381 Mr '61. (MIRA 14:3)

1. Fizicheskiy fakul'tet Moskogskogo gosudarstvennogo universiteta.
(Iron-nickel alloys—Magnetic properties)
(Elasticity)

PA 45/

KATAYEV, I. A.

11 Jan 1948

USSR/Medicine - Wheat
Medicine - Fungi

"Certain Wheat Mildew Fungi in the Turkmen SSR," I. A. Katayev, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 2

Describes full-cycle development of following types of mildew: Puccinia cynodontis Desmaz., P. isiacae (Thum.) Winter, and P. aristidae Tracy. Observed growing on Cynodon dactylon (L.) Pers., Aristida pennata Trin., and other types of the same order. Data obtained can be applied only to Ashkhabad and Maryyak Oblasts. V. V. Nikitin was very helpful in studies. Submitted by Academician N. A. Maksimov, 20 Oct 1947.

43741

KATAYEV, I.A.

Turkmenistan--Uredineae

Species of rust fungi of Turkmenistan. Izv. Turk. fil. AN SSSR, No. 2, 1949

Botanical + Plant Study Inst., Turkmen Affil., A.S.

9. Monthly List of Russian Accessions, Library of Congress, November 1953 2 Uncl.

1. KARAYEV, I. A.

2. USSR (600)

7. "Smut Fungi of the Turkmen SSB (Supplementary Data on the Species Composition)", Izvestiya Turkm. Filiala Akad. Nauk SSSR (News of the Turkmen Affiliate, Acad Sci USSR), No 5, 1950, pp 90-93.

8. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.

1. KATAYEV, I. A.

2. USSR (600)

7. "Rust Fungi of Turkmenistan (Supplementary Materials on the Species Composition)", Izvestiya Turkm. Filiala Akad. Nauk SSSR (News of the Turkmen Affiliate, Acad Sci USSR), No 1, 1951, pp 32-38.

6

9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.

1. KATAYEV, I. A.

2. USSR (600)

4. Uredineae

7. New species of rust fungus, Bot. mat. Otd. spor. rast., 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

KATAYEV, I.A.

Diseases of ornamental plants in Kishinev and measures for their control. Uch. zap. Kish. un. 13:209-217 '54. (MLRA 9:10)

(Kishinev--Plants, Ornamental--Diseases and pests)

KATAYEV, I.A.; KOLOSHINA, L.N.

Rhizoctonia solani Kuhn as a stimulator of the growth of English oak seedlings and the development of mycorrhyza on their roots. Mikrobiologiia 24 no.6:700-704 N-D '55 (MIRA 9:4)

1. Kishinevskiy gosudarstvennyy universitet.
(OAK) (RHIZOSPHERE MICROBIOLOGY)

OKLADNIKOV, V.P.; MAR'YASIN, I.L.; KATAYEV, I.G.; PASKOVER, Yu.S.

Investigating heavy cool-tar products of semicoking, a new kind of binders. Khim.i tekh.topl.i masel 5 no.10:26-31 O '60. (MIRA 13:10)

(Coke industry--By-products) (Briquets (Fuel))

KATAYEV, I.G.; IVANUSHKO, N.D., red.; BELYAYEVA, V.V., tekhn. red.

[Electromagnetic shock waves] Udarnye elektromagnitnye volny. Moskva, Izd-vo "Sovetskoe radio," 1963. 150 p. (MIRA 16:7)

(Electromagnetic waves)

KATAYEV, I.G. (Gor'kiy)

Electromagnetic shock-waves. Priroda 52 no.7:104-105 Jl '63. (MIRA 16:8)

(Electromagnetic waves)

KATAYEV, I. I.

"On the Efficiency of Gearings With Movable Wheel Axes." Sub 25 Jun 51, Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

SOV/124-57-8-8679

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 8, p 14 (USSR)

AUTHOR: Katayev, I. I.

TITLE: Consideration of the Friction in the Center Bearings of Simple Satellite Transmissions (Uchet treniya v tsentral'nykh podshipnikakh prostykh satellitnykh peredach)

PERIODICAL: V sb.: Vopr. dinamiki i dinam. prochnosti. Nr 4. Riga, AN LatvSSR, 1956, pp 141-164

ABSTRACT: An examination of the friction losses in the center bearings of simple satellite gears at constant angular velocities of all shafts. Conditions, relative to the train value obtaining with the drive gear arrested, in which simple differentials can function under the conditions prescribed are derived. Formulas are adduced for the evaluation of the efficiency of simple satellite transmissions.

S. G. Kislitskiy

Card 1/1

KATAYEV, I. I.

"Braking and Blocking in Simple Planetary Transmissions." p. 115
Voprosy dinamiki i prochnosti (Problems of Dynamics and Strength), Riga, Izd-vo AN Latviyskoy SSR, 1958, 178pp. (Sbornik statey, Inst. mashinovedeniya, AN Lat SSR, vyp. 5)

The book is a collection of ten research papers, prepared by members of Acad. Sci. Lat SSR, Latvian State University and the Riga Red-Banner Higher Military School for Aeronautical Engineering im. K. E. Voroshilov.

KATAYEV, M.A., inzh.

ShChOM-D ballast cleaner used for the reconditioning of the roadbed. Put'i put.khoz. 5 no.4:18-19 Ap '61. (MIRA 14:7)

1. Nachal'nik otdela Zlatoustovskogo otdeleniya Yuzhno-Ural'skoy dorogi.

(Railroads—Track)

KATAYEV, M.A.

Mechanization of labor consuming operations in slag ballasting. Put' i put. khoz. 8 no.1:12-13 '64. (MIRA 17:2)

1. Nachal'nik otdela puti, zdaniy i sooruzheniy Zlatoustovskogo otdeleniya Yuzhno-Ural'skoy dorogi.

KAT'AYEV, N., kapitan.

Replacement for the output meter. Voen. sviaz. 16 no.2:46 F '58.
(Radio measurements) (MIRA 11:3)

Katayev, N.A.

I-29

USSR/Chemical Technology - Chemical Products and Their Application - Leather. Fur. Gelatin. Tanning Agents. Technical Proteins.

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33114

Author : Kovtunovich, S.D., Katayev, N.A.

Inst :

Title : The Causes of Low Tanning Coefficients of Yuft.

Orig Pub : Legkaya prom-st', 1954, 14, No 12, 36

Abstract : Some leather factories which produce yuft do not attain the tanning coefficient (TC) of not less than 37%, which is required by GOST 485-52. The causes which lead to the low TC obtained at these plants are discussed. 1) shaving is carried out not after chrome-treatment but after vegetable tanning, after fat-liquoring or with a dry semi-finished product (which also lowers the fat content of the leather); 2) chrome-treated dehaired hides, used in vegetable tanning, have a pH above 5.0,

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application - Leather. Fur. Gelatin. Tanning Agents. Technical Proteins.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 33114

which slows down the binding of the tannins during vegetable tanning; 3) tanning is effected with a sulfitized extract, which also slows down the binding of the tannins.

Card 2/2

KATAYEVA, N.A.; KOLMAKOVA, N.A.

Effect of ultrasound on the adsorption of iodine from the flow of aqueous and alcohol solutions. Zhur.fiz.khim. 37 no.7:1593-1594 Jl '63. (MIRA 17:2)

1. Taganrogskiy radiotekhnicheskiy institut.

P.

USSR/General and Special Zoology - Insects.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30622

Author : Katayev, O.A.
Inst : -
Title : A Review of the Sanitary Condition of the Lisin Forest Aggregate for 1787-1955.

Orig Pub : Tr. Lenigrad. lesotekhn. akad., 1956, vyp. 73, 49-58.

Abstract : In examining archive materials, instances of damage to forests and in 1833, by pestiferous insects were uncovered. The organisation of training in forestry in 1834 secured the attraction of specialists from the Institute of Forestry for the control of the pests. During the period 1841-1851 mass propagation of the pine saw fly Diprion pini was observed; control of the saw fly consisted in crushing their larvae. The first Russan entomological office was established in the Lisin Forestry in 1859; it carried on practical studies with the aid of instructors and students

Card 1/2

P.

USSR/General and Special Zoology - Insects.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30622

of the Institute of Forestry; lectures in entomology were given there since 1828. The following prophylactic measures were worked out in connection with an outbread of the typograph beetle (Ips typographica) in 1860: burning of the bark, the branches and the residue from cutting the trees and removal of the damaged trees. Planting of "catching" trees began in 1888 on the advice of I.Ya. Shevyrev. In 1922 the forestry was transferred to the supervision of the Institute of Forestry and converted into a scientific-experimental forest kolkhoz for sicentific and educational work.

Card 2/2

P

USSR / General and Specialized Zoology. Insects. Chemical Means for the Control of Harmful Insects and Acarids.

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59206.

Author : Katayev, O. A.
Inst : The Leningrad Academy of Industrial Forestry.
Title : The Utilization of a DDT Preparation for the Control of Insect-Miners.

Orig Pub: Tr. Leningr. lesotechn. akad., 1957, vyp. 81, ch. 3, 55-60.

Abstract: A 20% concentrate of mineral-oil DDT emulsion in different concentrations (according to the preparation) was used. Spraying elm trees with a 3% emulsion destroyed 86% of the larvae of the elm mining sawfly in 24 hours. 3% and 6% emulsions were tested on caterpillars of the first-

Card 1/3

P

USSR / General and Specialized Zoology. Insects. Chemical Means for the Control of Harmful Insects and Acarids.

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59206.

Abstract: generation lilac moth by a single treatment (T); on the second generation, a twofold T was used (after three days). The caterpillars' mortality rate was taken into consideration on the third day. Their destruction on the Hungarian lilac trees of all varieties was lower than on the common lilac. The mortality rate from the 6% emulsion was higher, in all cases, than from the 3% emulsion. The second generation caterpillars showed greater resistance to the DDT emulsion than the first generation. The two-fold T increased the destruction of the caterpillars up to 90%. An aerosol of 7% DDT kerosene solution destroyed only 15% of the caterpillars. A

Card 2/3

KATAYEV, Oleg Aleksandrovich; ZHURAVLEV, I.I., prof., retsenzent; SELISHCHENSKAYA, A.A., retsenzent; DEMENT'YEV, V.I., dots., otv. red.; FILONENKO, K.D., red.; URITSKAYA, A.D., tekhn. red.

[Principles of zoology] Osnovy zoologii; uchebnoe posobie dlia studentov lesokhoziaistvennogo fakul'teta. Leningrad, Vses. zaochnyi lesotekhn. in-t, 1962. 48 p. (MIRA 16:7)

1. Assistent kafedry entomologii Lesotekhnicheskoy akademii im. S.M.Kirova (for Selishchenskaya).
(Zoology)

KATAYEV, P., kapitan

Reconnaissance reports are delivered in time. Voen. vest. 42 no.8:104-105 Ag '62. (MIRA 15:7)

(Radio, Military)

~~P.S.~~, KATAYEV, P.S.

RUKOVODSTVO PO LECHEBNOY KULINARII I SOSTAVLENIYU MENYU DLYA SANATORIYEV I DOMOV OTDYKHA /MANUAL ON MEDICAL COOKERY AND MENU COMPILATION FOR SANATORIA AND REST HOMES, BY/ I. D. GRANETSKIY, I. G. DREVAL', MOSKVA, MEDGIZ, 1953-

V. TABLES.

LIB. HAS: V. 1

SALO, Ya. V.; KATAYEV, S.F. (Khabarovsk)

Orthodontic treatment as a preliminary stage in dental prosthesis. Stomatologiia 38 no.2:47-50 Ap '59. (MIRA 12:7)
(ORTHODONTIA) (DENTAL PROSTHESIS)

KATAEV, S. and others.

Televidenie [Television]. Mosva, Gos. izd-vo po voprosam radio [1935]. 85 p.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washinton, 1952, Unclassified.

KATAYEV, S. I. assisted V. S. SAMOYLOV --

"Design of a Saw-Tooth Current Oscillator," Radiotekhnika, No 3, 1947.

Moscow Institute of Communications Engineers (MIIS)

KATAYEV, S. I., PROF

May 48

USSR/Radio
Television - Apparatus
Television - Transmitters

"The Contribution of Soviet Scientists in the Development of Television," Prof S. I. Katayev, 4 pp

"Radio" No 5

Discusses the development of electron-beam systems and the use of video tubes, the transmitter system in television, the principles of colored-television transmission and reception, and other details of television systems.

4/49T104

KATAYEV, S. I.

KATAYEV, S. I.

Katayev, S. I. defended his Doctor's dissertation in the Moscow Electrical Engineering Institute of Communications, USSR, 12 April 1951, for the academic degree of Doctor of Technical Sciences.

Dissertation: "Problem of Obtaining Electric Pulses of Arbitrary Form".
Resume: Katayev investigated the possibility of using the nonlinearity of voltampere characteristics of different elements in an electric circuit. It was demonstrated that graphite and carbon (karbovidnyy) resistors can be used only in the simplest cases, while ferromagnetic elements have more general properties. Kateyev described an original method for generating a given voltage wave form with the help of a ferromagnetic system as well as a method for using a frequency modulated exciter. He investigated the elementary pulse forms necessary to produce the resultant wave form. The results of the research, which show the feasibility of replacing the given wave with a fragmentary broken wave which can be created from elementary trapezoidal and triangular pulses, can be used not only for the apparatus described in the dissertation but also for other types. Katayev described and investigated an original apparatus (an equivalent circuit of a long-distance communication line) based on the analogy with electromagnetic induction phenomena in long-distance electric power transmission lines. On

the basis of this concept, different variants of the apparatus were developed for obtaining a generator of a controllable wave form, and the theory behind them was set forth. Katayev solved the provlem of generating pulses of the given form by setting up capacities by the given law along an artificial line.

Official Opponents: Profs. S. E. Khaykin (Doctor of Physicomathematical Sciences) Yu. B. Kobzarevand L. I. Gutenmakher (Doctors of Technical Sciences).

SO: Elektrichestvo, No. 7, Moscow, August 1953, pp 87-92 (W/29844, 16 Apr 54)

KATAYEV, S.I.; ASHKENAZY, V.O., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Impulse generators for television scanning] Generatory impul'sov televizionnoi razvertki. Moskva, Gos. energ. izd-vo, 1951 271 p. [Microfilm] (MLRA 10:1)

(Television) (Oscillators, Electron-tube)

KATAYEV, S.I., doktor tekhnicheskikh nauk, professor.

[Recent problems in television] Sovremennye problemy televideniia. Moskva, Izd-vo "Znanie," 1953. 23 p. (MLRA 6:12)
(Television)

KATAYEV, S.

Moscow - Television

Moscow televises. Nauka i zhizn' 20, No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

KATAYEV, S. I. (A/M of the Society M. S. NEYMAN)

"Coupling between Wave Guide Systems through the Apertures in Side Walls," Radiotekhnika, 1954, Vol. 9, No. 2 (Mar-Apr)

The coupling between wave guides through the apertures in a normal side wall is considered. The length of the apertures is assumed to be small in comparison with the wavelength. Equivalent systems for various forms of simple and combined couplings are substantiated. Hints are given for calculating parameters of equivalent systems. The survey is based on considerations arising from the theory of lines, generalized for standard wave guide systems.

ZWORYKIN, Vladimir Kosma.; KATAYEV, S.I., red.

[Television; the electronics of image transmission in color and monochrome] Televidenie; voprosy elektroniki v peredache tsvetnogo i monokhromnogo izobrazhenii. Moskva, Izd-vo inostrannoi lit-ry, 1956. 779 p. illus. col. plate 27 cm. [Translated from the English]. (MIRA 11:11)
(Television)

KATAYEV, S.I.

108-7-1/13

AUTHOR KATAYEV S.I., Prof., Regular Member of the Society for

TITLE "Electric Telescopy".
("Elektricheskaya teleskopiya" -Russian)

PERIODICAL Radiotekhnika, 1957, Vol 12, Nr 7, pp 3 - 9 (U.S.S.R.)

ABSTRACT Abridged text of the lecture held in May 1957 on the occasion of the fiftieth anniversary of the invention of the first electronic television set by Boris L-vovich Rozing. This invention has the Russian patent number 18076, 1907/1910 and the German Reichs-Patent has the number 209320 from the years 1907/1909. At first a survey of the stage of research at that time is given and the fact is mentioned that then it was attempted to solve the problem of image development in a mechanical way. Rozing was the first to show the way of a non-mechanical development of the image and to solve the problem in this direction. Instead of seeking a method for shifting the optical beam in a non-mechanical manner, he shifted the source of light itself in a non-mechanical way, that is in the Braun tube. The tube itself did not yet solve the problem, for at that time there did not yet exist a modulation of the electronic beam. Rozing constructed a simple device which consisted of three additional electrodes -two deflecting plates and an additional diaphragm - by means of which the deflection of the beam could be modulated. This supplement was enough to make an apparatus for television reception out of the physical apparatus. The method of modulation of the electron beam was later on, in 1931, with some improvement used by the German scientist M.Ardenne

Card 1/2

7(7)

SOV/19-59-4-80/317

AUTHORS: Tetel'baum, S.I., and Katayev, S.I.

TITLE: A Radio Receiver for Radar Installations

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 4, p 20 (USSR)

ABSTRACT: Class $21a^4$, 48_{65}. Nr 118188 (324102 of 21 May 1943). A radio receiver with automatic sensitivity control for use in pulse-type radar installations. The sensitivity of subject receiver corresponds with the time period passed from the moment of sending the pulse from the transmitter, thus securing simultaneous control of reception force of signals reflected from near and distant objects. In order to avoid the blocking of the receiver, the pulses are fed to the reactance tube in the heterodyne circuit.

Card 1/1

Katayev, S.I.

8(5) SOV/19-59-5-101/308

AUTHOR: Katayev, S.I.

TITLE: A Transistorized Sawtooth Current Generator

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 5, p 26 (USSR)

ABSTRACT: Class $21a^1$, 32_{54}. Nr. 118427 (589494 of 8 January 1958).
The generator makes use of the reactive energy of the alternate charging and discharging of a capacitor. To achieve an even change of current and reduce the power needed, the generator includes two circuits, connected through a capacitance and an inductance, each composed of a capacitance, inductance and diodes all switched in in series, as well as a source of current in one circuit and a transistor in the other, forming in the transformer windings an alternately magnetizing and demagnetizing magnetic current pulsating according to the sawtoothed law by the periodic discharging of the capacitor coupling

Card 1/2

SOV/19-59-5-101/308

A Transistorized Sawtooth Current Generator

through the triode and its charging through the diode.

Card 2/2

7(7) SOV/19-59-4-79/317

AUTHORS: Tetel'baum, S.I., and Katayev, S.I.

TITLE: A Method for Short-Period Changing of the Sensitivity of Superheterodyne Receivers at Radar Stations

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 4, p 20 (USSR)

ABSTRACT: Class $21a^4$, 48_{65}. Nr 118187 (324099 of 21 May 1943). In this method, the short-period changes of receiver sensitivity is obtained by the use of pulse-frequency modulation of the heterodyne.

Card 1/1

BOGATOV, Geral'd Borisovich; KATAYEV, S.I., red.; VORONIN, K.P., tekhn.red.

[How the image of the other side of the moon was obtained] Kak bylo polucheno izobrazhenie obratnoi storony luny. Moskva, Gos.energ. izd-vo, 1960. 62 p. (Massovaia radiobiblioteka, no.385). (MIRA 14:3)

(Lunar probes) (Moon--Photographs, maps, etc.)

MINTS, A.L., akademik, glavnyy red.; BURDUN, G.D., red.; VOL'PERT, A.R., red.; GORON, I.Ye., red.; GUTENMAKHER, L.I., prof., red.; GRODNEV, I.I., red.; DEVYATKOV, N.D., red.; ZHEKULIN, L.A., red.; ~~KATAYEV, S.I.,~~ red.; NEYMAN, M.S., red.; SIFOROV, V.I., red.; CHISTYAKOV, N.I., red.; GESSEN, L.V., red.izd-va; MARKOVICH, S.G., tekhn.red.

[One hundredth anniversary of the birth of A.S.Popov; jubilee session] 100 let so dnia rozhdeniia A.S.Popova; iubileinaia sessiia. Moskva, Izd-vo Akad.nauk SSSR, 1960. 312 p. (MIRA 14:1)

1. Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi. (Information theory)

KATAYEV, S.I.

Some potential directions in the development of television broadcasting techniques. Tekh.kino i telev. 4 no.6:1-8 Je '60. (MIRA 13:7)

(Television broadcasting)

KATAYEV, S.I.; KHROMOY, B.P.

Consideration of the effect of interference on the derivation of a silhouetted signal rear projection. Radiotekhnika 16 no.10:38-43 O '61. (MIRA 14:10)

1. Deystvitel'noye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Television)

KATAYEV, S.I.; KURDOV, L.I.; KHROMOY, V.P.; UL'YANOV, V.N.; DROKHANOV, A.N.

Experimental electronic rear projection system in the Moscow Television Center. Vest. sviazi 22 no.5:3-6 My '62. (MIRA 15:5)

1. Sotrudniki kafedry televideniya Moskovskogo elektrotekhnicheskogo instituta svyazi.
(Moscow--Television stations--Electronic equipment)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110018-0"

KATAYEV, S.I., prof.; KONSTANTINESKU, L.I., inzh.

Increasing the quality of synchronization in long-distance television transmission. Vest. sviazi 24 no.5:9 My '64. (MIRA 17:6)

L 02403-67 EWT(d)/FSS-2 GD

ACC NR: AT6022318 SOURCE CODE: UR/0000/66/000/000/0022/0025

AUTHOR: Katayev, S. I.; Makoveyev, V. G.; Smirnov, V. V.; Dymnich, E. V.; Avanesov, G. A.

ORG: None

67
B+1

TITLE: Experimental converter of television signal standards

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio, 22d, 1966. Sektsiya televideniya. Moscow, 1966, 22-25

TOPIC TAGS: signal to noise ratio, TV converter, TV equipment, TV system, vidicon tube, video signal

ABSTRACT: The authors discuss the various problems involved in exchange of television programs due to the existence of four incompatible television signal standards. A brief description is given of an experimental converter developed by the television department of the Moscow Electrotechnical Institute of Communications in 1964-1965. This device converts a television signal from a system with a line frequency of 625 per second at 50 frames per second to a signal with 525 lines per second at 60 frames per second and vice versa. The basic unit in the converter is a device for rephotographing the image containing an optically interconnected kinescope and transmitting tube which operate in different scanning systems.

Card 1/2

L 02403-67

ACC NR: AT6022318

Since the transmitting tube in the camera used for the original photography is responsible for most of the distortions which appear in the converted image, particular attention is given to the requirements for this tube. Some of the specific requirements for this component are uniformity in the amplitude of the video signal on the working section of the target, proper transmission of information on the black level in the image and a target time constant of about 40 msec. This time lag in the transmitting tube reduces the amplitude of low frequency spurious modulation of the output signal, improves the signal to noise ratio and increases line "beat-frequency". It was found that vidicon tubes give the best results. The best lens for the intermediate optical system is the OKS1-50. The reproduction unit uses the 23 LK6I kinescope which gives a peak brightness of the order of 500-600 nit at an accelerating voltage of 25 kv. The size ratio of image conversion is 1:1. Provision is made for both automatic and manual suppression of spurious low-frequency modulation of the output signal at 1cps. The converter also contains input and output signal channels, a monitor for suppression of specific distortions and synchrogenerators for both standards. The output image has 7-8 differentiable gradations when there are 9 differentiable gradations in the input image. The signal to noise ratio at the output is 31 db for an input ratio of 27 db, i. e. a gain of 4 db. There is practically no flicker in the output image due to spurious modulation. Magnetic shielding of various units is used to eliminate the effect of a-c background from the 50 cps power supply. Orig. art. has: 1 table.

SUB CODE: 09/ SUBM DATE: 24Mar66

Card 2/2

KATAYEV, V.F.

The relation of mechanical drawing to the practical work of students in industry. Politekh.obuch. no.8:44-51 Ag '57. (MIRA 10:9)

1. Prepodavatel' cherchcniya sredney shkoly g. Rigi.
(Mechanical drawing--Study and teaching)

KATAYEV, V.F., kand.tekhn.nauk

Electromechanical integrator for remote measurement of consumption. Izv.vys.ucheb.zav.; prib. no.3:15-20 '59.
(MIRA 13:4)

1. Taganrogskiy radiotekhnicheskiy institut. Rekomendovana kafedroy elektricheskikh izmereniy i mashin.
(Integrators)

KATAYEV, V.F., inzh.

Methods for jacketing vinyl plastic pipes. Suggested by V.F. Kataiev. Rats.i izobr.predl.v stroi. no.13:72-74 '59. (MIRA 13:6)

1. Pervoural'skoye montazhnoye upravleniye tresta Vostokmetallurgmontazh Ministerstva stroitel stva RSFSR.
(Pipe, Plastic)

9.3280

S/146/62/005/004/004/013
D295/D308

AUTHOR: Katayev, V.F.

TITLE: The design of the ring demodulator using semiconduc- diodes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 5, no. 4, 1962, 22-27

TEXT: The design procedure suggested enables the parameters of the well-known phase-sensitive demodulator configuration to be calculated simply and to an accuracy sufficient in practice, to give not only specified sensitivity but also to meet assigned stability requirements over a given temperature range. The value of the forward incremental resistance of the diode is obtained from experiment, but no graphs are involved. The method is illustrated by a numerical example. There are 2 figures and 1 table.

ASSOCIATION: Taganrovskiy radiotekhnicheskiy institut (Radio Engineering Institute, Taganrog)

SUBMITTED: September 13, 1961

Card 1/1

KATAYEV, V.F.

Design of a semiconductor-diode ring demodulator. Izv.vys.uchab.-zav.; prib. 5 no.4:22-27 '62. (MIRA 15:9)

1. Taganrogskiy radiotekhnicheskiy institut. Rekomendovana kafedroy elektroizmeritel'noy tekhniki.
(Modulation (Electronics))

KATAMEV, V.I. , SMIRNOV, A.I., KRAVTSOV, G.L.

Moscow--Apartment Houses

Experience in decorating apartment houses. Biul. stroi. tekh. 9 No. 16, 1952

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Uncl.

KATA